



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO23645**

Purchase Order Date 4/4/2014

PO Print Date 4/4/2014

Page Number 1 of 3

Order From :

VU-BEA001

Ship To : DART AEROSPACE LTD

B/E AEROSPACE INC
88289 EXPEDITE WAY
CHICAGO, IL 33172
USA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 305-925-2600

Ship To Contact

Ship To Phone

Ship Via: FedEx PI collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	AN3C16A 352	BOLT	4/11/2014 Yes 4/11/2014		50.00 Each	\$0.60	\$30.00
Line Total:							\$30.00
2	AN3C5A	Bolt	4/11/2014 Yes 4/11/2014	FN	600.00 Each	\$0.35	\$210.00
Line Total:							\$210.00
3	AN3C6A 513	Bolt	4/11/2014 Yes 4/11/2014	FN	1,000.00 Each	\$0.40	\$400.00

Note:

4/4/2014



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1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
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Purchase Order ID **PO23645**

Purchase Order Date 4/4/2014

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Page Number 2 of 3

Order From :

VU-BEA001

Ship To : DART AEROSPACE LTD

B/E AEROSPACE INC
88289 EXPEDITE WAY
CHICAGO, IL 33172
USA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

305-925-2600

Ship To Contact

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Ship Via:

FedEx PI collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

Line Total: \$400.00

4 AN4-11A

BOLT

4/11/2014 FN

250.00

\$0.18

\$45.00

Yes

Each

4/11/2014

Line Total: \$45.00

5 AN4-14A

Bolt

4/11/2014 FN

500.00

\$0.22

\$110.00

Yes

Each

4/11/2014

Line Total: \$110.00

6 AN5C12A

BOLT

4/11/2014

100.00

\$2.50

\$250.00

Yes

Each

4/11/2014

Line Total: \$250.00

Note:

4/4/2014



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Tel: 613 632 9577
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PURCHASE ORDER

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Page Number 3 of 3

Order From :

VU-BEA001

Ship To : DART AEROSPACE LTD

B/E AEROSPACE INC
88289 EXPEDITE WAY
CHICAGO, IL 33172
USA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 305-925-2600

Ship To Contact

Ship To Phone

Ship Via: FedEx PI collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

7	AN6C12A	Bolt	4/11/2014	FN	125.00	✓	\$4.00	\$500.00
			Yes		Each			
			4/11/2014					

504

4/4/14

Line Total: \$500.00

8	71401-45		4/11/2014		0.00		\$0.00	\$0.00
			No					
			4/11/2014					

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A032 PUBLIC LAW 101-592 FASTENER QUALITY ACT

A033 STATEMENT OF CONFORMITY/TEST RECORDS

FOR NAS, AN and MS FASTENERS

A040 NOTIFICATION OF QUALITY ESCAPE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENTS

Line Total: \$0.00

PO Total: \$1,545.00

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

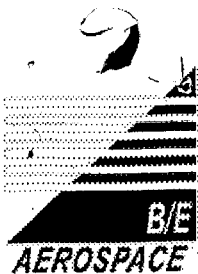
Change Nbr:

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Change Date:

4/4/2014

M. Gregoire



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 650 LONGBEACH BLVD, STRATFORD, CT 06615


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: P023645

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
4	18	EA	AN4-11A		61941	MAC FASTENERS	ORFT4		


Jason Lewis
Vice President of Quality

04/07/14

Airfasco Industries, Inc.

2655 Harrison Ave SW
Canton, OH 44706
Ph: 330-430-6190, Fax: 330-430-6199,

Packing Slip

Invoice #: 100094

Invoice Date: 1/17/2007

Time: 12:53:40 PM

Page: 1

To:
M&M AEROSPACE HARDWARE
PO BOX 025263
MIAMI, FL 33102-5263
USA
Ph: 305-592-5155 Fax: 305-591-8357 PURCHAS

Ship To:
M&M AEROSPACE HARDWARE
10000 NW 15TH TERRACE
MIAMI, FL 33172

Cust. PO#: 0AJ635

Terms: NET 60

Ship Via: FED EX MOTOR FRESHip Via Acc: 018757

Order Date: 8/10/2006

of Items: 1

of Boxes: 144

Weight: 6220

Prepared By:

Sales Order: 81923

Ship Log #: 1

Ship Order:

Customer #: 12726

VAT #:

Cust VAT #:

Ship Date: 1/17/2007

Buyer: JOE GRAY

FOB:

AWB:

Shipment:

Item	Part Number/Description	Shipped	BackOrd	CD			Unit Price	UOM	Total Amt
2	AN4-11A BOLT, AN Loc/Whse: AFC Control #: 127330-1 L-14041 66 BOXES	150000	0	NE				EA	

C OF C ENCLOSED. THANK YOU
144 BOXES 984/1381/799/975/699/1382 LBS 6 PALLETS
TEST REPORT L-14041
SHIPPED WITH INVOICES 100092/93
MADE IN THE USA



AIRFASCO
INDUSTRIES
MANUFACTURER OF AEROSPACE PRODUCTS

2655 HARRISON AVE. SW
CANTON, OH 44706
PHONE: (330)430-6190
FAX: (330)430-6199

CERTIFICATE OF CONFORMANCE

M & M

I hereby certify that on 01/03/07 AIRFASCO Industries provided the supplies called for by Contract/ PO Number **0AJ635** in accordance with all applicable requirements for shipment. I further state that the process certifications are in conformance with the contract requirements, including specifications and/or drawings, physical item identification (part number) and the quantity shown on this or attached acceptance document. The part numbers certified below have been manufactured in the United States.


WM. DENT

Quality Assurance Representative

PART NUMBER	LOT NUMBER	QUANTITY	PART NUMBER	LOT NUMBER	QUANTITY
AN4-11A	14041	150000			

INVOICE# HSVXH0 ORDER# 906Y27 PART# AN4-11A

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Airfasco Industries, Inc.

2655 Harrison Ave SW
Canton, OH 44706
Ph: 330-430-6190, Fax: 330-430-6199,

Packing Slip

Invoice #: 92747
Date Printed: 12/9/2005
Time: 1:36:16 PM
of Items: 7
Page: 1

To:

M&M AEROSPACE HARDWARE
PO BOX 025263
MIAMI, FL 33102-5263
USA
Ph: 305-592-5155 Fax: 305-591-8357 PURCHAS

Ship To:

M&M AEROSPACE HARDWARE
10000 NW 15TH TERRACE
MIAMI, FL 33172

Invoice Date: 12/9/2005

Terms: NET 60

Weight: 6069

Ship Via: WATKINS

Order Date: 12/8/2005

Cust. PO#: 0B1664

of Boxes: 107

Ship Via Acc: 018757

Ship Date: 12/9/2005

FOB:

Ship Log #: 1

Ship Order:

Sales Order: 78289

Buyer: JOE GRAY

Cust VAT #:

Shipment:

Customer #: 12726

AWB:

VAT #:

Item	Part Number/Description	Shipped	BackOrd	CD			Unit Price	UOM	Total Amt
1	AN4-11A BOLT, AN Serial #: L-11019 Loc/Whse: AFC2	28460	0	NE					
2	AN4-11A BOLT, AN Serial #: L-10189 Loc/Whse: AFC2	9490	0	NE					
3	AN4-11A BOLT, AN Serial #: L-10918 Loc/Whse: AFC2	35960	0	NE					
4	AN4-11A BOLT, AN Serial #: L-11378 Loc/Whse: AFC2	46130	0	NE					
5	AN4-11A BOLT, AN Serial #: L-11380 Loc/Whse: AFC2	36790	0	NE					
6	AN4-11A BOLT, AN Serial #: L-11303 Loc/Whse: AFC2	18300	0	NE					

C OF C ENCLOSED. THANK YOU

107 BOXES 1073/633/829/1009/813/1035/677 LBS 7 PALLETS

CHEM & PHYS L-111019/L-10189/L-10918/L-11378/L-11380/L-11303/L-11379

SHIPPED WITH INVOICES 92746/48



AIRFASCO
INDUSTRIES
MANUFACTURER OF AEROSPACE PRODUCTS

2655 HARRISON AVE. SW
CANTON, OH 44706
PHONE: (330)430-6190
FAX: (330)430-6199

CERTIFICATE OF CONFORMANCE

M&M

I Hereby Certify that on 12/09/05 Airfasco Industries provided the supplies called for by Contract/ PO Number **0B1664** in accordance with all applicable requirements for shipment. I further state that the process certifications are in conformance with the contract requirements, including specifications and/or drawings, physical item identification (part number) and the quantity shown on this or attached acceptance document. The part numbers certified below have been manufactured in the United States.


WM. DENT

Quality Assurance Representative

PART NUMBER	LOT NUMBER	QUANTITY	PART NUMBER	LOT NUMBER	QUANTITY
AN4-11A	11019	28460			



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 650 LONGBEACH BLVD, STRATFORD, CT 06615


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23645

LIN#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
4	232	EA	AN4-11A						
			QTY: 93		14917	MAC FASTENERS		0RPT4	
			QTY: 52		14041	AIRFASCO INDUSTRIES	32958		
			QTY: 87		11019	AIRFASCO INDUSTRIES	32958		


Jason Lewis
Vice President of Quality

04/07/14



MAC FASTENERS, INC.
1110 E. ENTERPRISE
OTTAWA, KS 66067

**CERTIFICATE
OF
CONFORMANCE**

CUSTOMER M & M Aerospace		P. O. NUMBER OR2519
PART NUMBER AN4-11A Rev.1		LOT NUMBER 14917
QUANTITY 275,000	MATERIAL HEAT NUMBER 2Y924	DATE 12-21-01

WE HEREBY CERTIFY THAT THE PARTS FURNISHED AGAINST THE ABOVE REFERENCED PURCHASE ORDER WERE PROCESSED IN CONFORMANCE WITH ALL APPLICABLE DRAWINGS AND SPECIFICATIONS. OBJECTIVE EVIDENCE OF COMPLIANCE ARE ON FILE SUBJECT TO EXAMINATION UPON REQUEST.

QUALITY ASSURANCE
Robert MacDonald, President

12-21-01

DATE



MAC FASTENERS, INC.
1110 E. ENTERPRISE
OTTAWA, KS 66067

CERTIFICATE
OF
CONFORMANCE

CUSTOMER M & M Aerospace		P. O. NUMBER OR2519 ✓
PART NUMBER AN4-11A ✓ Rev. 1 ✓		LOT NUMBER 14917 ✓
QUANTITY 275,000	MATERIAL HEAT NUMBER 2Y924 ✓	DATE 12-21-01


WE HEREBY CERTIFY THAT THE PARTS FURNISHED AGAINST THE ABOVE REFERENCED PURCHASE ORDER WERE PROCESSED IN CONFORMANCE WITH ALL APPLICABLE DRAWINGS AND SPECIFICATIONS. OBJECTIVE EVIDENCE OF COMPLIANCE ARE ON FILE SUBJECT TO EXAMINATION UPON REQUEST.

2008C00505-
SINUISKY
1405
BOR



7/29/10

NOV 11 2009


QUALITY ASSURANCE
Robert MacDonald, President

12-21-01

DATE



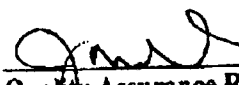
JUL 20 2010

MAC FASTENERS, INC.
Laboratory Division
1110 Enterprise Street
OTTAWA, KS 66067

Magnetic Particle Inspection

Customer M & M Aerospace Hardware	P. O. Number OR2519 ✓	Quantity 275,000
Part Number AN4-11A ✓	Job/Lot Number 14917 ✓	Material 4140 ✓
Magnetic Particle Specification ASTM E 1444 ✓	Specification Requirements 100% inspection per Purchase Order	
Quantity Inspected 100% ✓	Inspection Results 100% pass ✓ 0 fail ✓	

The fasteners referenced in this report have been processed in accordance with the above referenced specification. Evidence of compliance is on file subject to examination upon request.


Quality Assurance Representative
Mac Fasteners, Inc. a NVLAP
Certified Laboratory
NVLAP Lab Code: 200141-0

Form # QA14 T, Revision 12/29/97
Approval DK

2008-00505
SIKORSKY
1405
DQR
1000 pcs
AUG 11 20

B/E
122
INSP

2/15/10

B/E
122
INSP

JUL 30 2010

MAC FASTENERS, INC.
Laboratory Division
1110 Enterprise Street
OTTAWA, KS 66067


Thread Inspection

Customer M & M Aerospace Hardware	P. O. Number OR2519 ✓	Quantity 275,000
Part Number AN4-11A ✓	Job/Lot Number 14917 ✓	Material 4140 ✓
Thread Specification MIL-S-7742 ✓	Contract Requirements Inspection per System 23 of Fed-Std-H28/20	
Quantity Inspected 100% ✓	Inspection Results 100% pass 0 fail	

B/E
122
INSP

7/15/10

The fasteners referenced in this report have been processed in accordance with the above referenced specification. Evidence of compliance is on file subject to examination upon request.


Quality Assurance Representative
Mac Fasteners, Inc. a NVLAP
Certified Laboratory

NVLAP Lab Code: 200141-0

200800505
KORSIN
405 pcs.
DOR

Form # QA14 T, Revision 12/29/97
Approval DK

MS 11 20

B/E
120
INSP

JUL 30 2010

DE TRAY Plating Works

Specialized Electro-Plating
Nickel
Copper
Decorative Chrome
Satin Chrome
Zinc
Cadmium

10406 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052
Area Code 816-252-8411

December 20, 2001

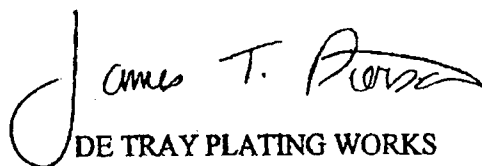
Mac Fasteners
1110 East Enterprise Street
Ottawa, Kansas 66067

Subject: Certification

This is to certify that the following parts have been stress relieved for 4 hours at 375 +/- 25 before cleaning cadmium plate per QQ-P-416, Rev. F 3/1/93, Type H, Class 2. Please reference our Invoice #78491 dated 12/20/01 and your P.O. 14917 for:

275,000 PCs. P.N. AN4-11A ✓

James T. Pierson, Vice-President


DE TRAY PLATING WORKS



7/15/10A

2408 C 00505-
SIKORSKY 1000
1405 PCS.
DDR
AUG 11



JUL 30 2010

Tubular • Stampings • Die Castings • Sand Castings • Complete Assemblies

Sikorsky SSQS PO Report

Sikorsky SSQS PO Report**PO# 5500053996**

PO LINE NO. QTY		SUPPLIER CODE	PART NO	DWG REV P/L REV	
00002 587		065774	AN4-11A	NA	
O/S Rev	FSP	EPATS Rev	FAI	GSI	Serial Letter/Number Prefix
NA	N		N	N	/

Index Dates

Seq No	M&P Index Date	Appv Src	Index Date	Std Part	Index Date
1					10/01/2008

[illegible]

MACFASTENERS, INC.

1110 Enterprise Street
Ottawa, KS 66067
Phone: 785-242-8812
Fax: 785-242-4616

Packing List**Bill** B/E AEROSPACE CONSUMABLES MGMT

To: 10000 NW 15TH TERRACE
MIAMI, FL 33172

Ship B/E AEROSPACE CONSUMABLES MGMT

To: 9835 NW 14th Street
Miami, FL 33172
United States

Shipment No: 55972
Shipment Date: 10/29/12
Ship Via: United Parcel Service
Order Number: 44872
Order Date: 03/28/12

Customer Code: BE AEROSPACE
Phone: (305) 925-2600
PO Number: 0FXJ41
Terms: Net 30 Days

LOT #61941

<u>Item</u>	<u>Quantity</u>				<u>Unit</u>	<u>Description</u>	<u>Revision</u>	<u>Job Number</u>
	<u>Open</u>	<u>Shipped</u>	<u>Back Ord</u>	<u>Canceled</u>				
1	50,000	60,000	0		M	AN4-11A Bolt, machine-- Aircraft	2	61941

MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067

**CERTIFICATE OF CONFORMANCE
AND
MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0FXJ41

PART NUMBER: AN4-11A

REV: 2

LOT NUMBER: 61941

MANUFACTURED QUANTITY: 60,000

MILL HEAT NUMBER: 8190916

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

MERCURY FREE CERTIFICATION

MacFasteners Inc. certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS, INC. within the United States, and were processed in accordance with all applicable drawings and specifications.

Objective evidence of compliance is on file, subject to examination upon request.

DATE: 10/29/12


QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company- SAI GLOBAL - 0058029



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: P023645

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
3	1000	EA	AN3C6A		55507	MAC FASTENERS	DRPT4		


Jason Lewis
Vice President of Quality

04/07/14

MACFASTENERS, INC.

1110 Enterprise Street

Ottawa, KS 66067

Phone: 785-242-8812

Fax: 785-242-4816

Packing List**Bill B/E AEROSPACE CONSUMABLES MGMT****To: 10000 NW 15TH TERRACE****MIAMI, FL 33172****Ship B/E AEROSPACE CONSUMABLES MGMT****To: 9835 NW 14th Street****Miami, FL 33172****United States**

Shipment No: 59447
Shipment Date: 06/27/13
Ship Via: United Parcel Service
Order Number: 45738
Order Date: 07/18/12

Customer Code: BE AEROSPACE
Phone: (305) 925-2600
PO Number: 0JRF09
Terms: Net 30 Days

LOT #55507

<u>Item</u>	<u>Quantity</u>				<u>Unit</u>	<u>Description</u>	<u>Job Number</u>
	<u>Open</u>	<u>Shipped</u>	<u>Back Ord</u>	<u>Canceled</u>			
2	33,000	30,000	3,000		M	AN3C6A Bolt, machine-- Aircraft	

MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067

**CERTIFICATE OF CONFORMANCE
AND
MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0JRF09

PART NUMBER: AN3C6A

REV: 2

LOT NUMBER: 55507

MANUFACTURED QUANTITY: 30,000

MILL HEAT NUMBER: 562237

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

MERCURY FREE CERTIFICATION

MacFasteners Inc. certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS, INC. within the United States, and were processed in accordance with all applicable drawings and specifications.

Objective evidence of compliance is on file, subject to examination upon request.

DATE: 08/26/13



QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company- SAI GLOBAL - 0058029

MAC FASTENERS, INC.
1110 EAST ENTERPRISE
OTTAWA, KS 66067

CHEMICAL & PHYSICAL TEST REPORT

CUSTOMER B/E AEROSPACE	PO NUMBER 0JRF09	MFG QUANTITY 30,000	DATE 06/28/13
PART NUMBER AN3C6A	REV 2	LOT NO 55507	PROCUREMENT SPEC NASM6812

MATERIAL TYPE 431				MATERIAL SPECIFICATION ASTM A493				MILL HEAT NUMBER 562237			SUPPLIER CARPENTER		
C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	B	Fe	Al	Ti
.16	.55	.65	.016	.001		1.57	15.8						
	Co	N	Bi	Pb	Mg	Zn		Nb	Sn			Other	

MECHANICAL TEST RESULTS - TESTING PER NASM1312

ULTIMATE TENSILE STRENGTH POUNDS
3,360
3,340
3,340
3,350
3,330
MIN. REQ. 2210

DOUBLE SHEAR STRENGTH POUNDS / PSI
5,080
5,080
5,040
5,060
5,040
MIN. REQ. 4250

HARDNESS
ROCKWELL "C" SCALE
REQ. 26 - 32 HRC
SAMPLE SIZE 5
ACTUAL RESULTS 28-30 HRC

METALLURGICAL EXAMINATION			
Discontinuities	<input checked="" type="checkbox"/>	Carb/Decarb	<input checked="" type="checkbox"/>
Grain Flow	<input checked="" type="checkbox"/>	Microstructure	<input checked="" type="checkbox"/>
Grain Size	<input checked="" type="checkbox"/>	Appearance	<input checked="" type="checkbox"/>
Thread Inspection FED-STD-H28/20 - ASME B1.3		System 21 <input type="checkbox"/>	System 22 <input checked="" type="checkbox"/> System 23 <input type="checkbox"/>

NDT/ ADDITIONAL TESTS	
Magnetic Particle Inspection per ASTM E1444	<input type="checkbox"/>
Liquid Penetrant Inspection per ASTM E1417	<input type="checkbox"/>
Recess Torque Test	<input type="checkbox"/>
Head Marking	<input checked="" type="checkbox"/>

TEST CERTIFICATION

WE CERTIFY THAT THE PART NUMBER, LOT NUMBER, AND SAMPLES REFERENCED ABOVE HAVE BEEN TESTED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATION FOR THE TESTS REPORTED HEREIN. THIS CERTIFICATION SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF MAC FASTENERS, INC.


Quality Assurance Representative
AS9100C REGISTERED
SAI GLOBAL - 0058029

MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067

HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 06/26/13

PO NUMBER: 0JRF09

MANUFACTURED QUANTITY: 30,000

PROCESSOR:

PAULO PRODUCTS KCMO - NADCAP ID 4679

LOT NUMBER: 55507

MATERIAL: TYPE 431

PART NUMBER: AN3C6A

REVISION: 2

REQUIRED HARDNESS: 26 - 32 HRC

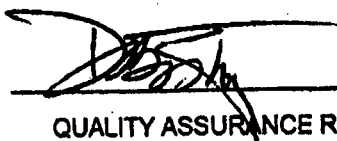
SAMPLE SIZE: 5

HARDNESS: 28-30 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

Notes:

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing, by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.



QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company - SAI GLOBAL - 0058029

DE TRAY Plating Works

Specialized Electro-Plating and Polishing
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Decorative Chrome
Satin Chrome
Zinc
Cadmium
Passivate
Bright Dip
Strip Copper
Descale

10405 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052
Phone (816) 252-8411 Fax (816) 252-8527 • E-mail: DeTrayPlating@aol.com

Passivate Treatment per QQ-P-35C/SAE AMS QQ-P-35/AMS 2700

CUSTOMER: Mac Fasteners Lot#: 55507
PART NUMBER: AN3C6A
PROCUREMENT SPECIFICATION: n/a
OTHER CONTRACTURAL REQUIREMENTS:
MATERIAL: 431
QUANTITY: 280 lbs
INVOICE NUMBER: 170895

Certification Statement:

We certify that the above referenced lot was processed, tested, and inspected in accordance with QQ-P-35C/SAE AMS-QQ-P-35, AMS2700 and part standard.

DE TRAY PLATING WORKS

NAME: James T. Lison

JOB TITLE: VICE-PRESIDENT

DATE: 6/24/2013

CERTIFICATE OF TESTS
CERT SERIAL# 000808404

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE



CARPENTER

Carpenter Technology Corporation
101 West Barn Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND BETA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

02/20/12

CUSTOMER / BESTELLER / CLIENT

MAC FASTENERS INC

1110 E. ENTERPRISE
OTTAWA KS 66067

SELLER / VERKÄUFER / VENDEUR PAGE 1 OF 1

BOL

CUSTOMER ORDER NO. / BESTELL-NR. / N° DE COMMANDE	CARPENTER NO. / WERKS-NR. / N° DE REFERENCE INTERNE	DATE / DATUM / DATE	WEIGHT / GEWICHT / POIDS
63016 LINE 6 RELEASE 2	W41541	02/20/12	397.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEES: 562237

PRODUCT DESCRIPTION: TYPE 431 COLD FINISH SEAM FREE ANNEALED C HDG CL K1 HVY
----- CU TENSILE MAX 100.0 KSI

SPECIFICATION: ASTM-A493-09

SIZE 0.187500 IN. (4.76 MM) RD WIRE

PRIMARY HEAT CHEMISTRY(WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN(XRF)	SI(XRF)	P (XRF)	S (COM)	CR(XRF)
0.16	0.65	0.55	0.016	0.001	15.8
NI(XRF)					
1.57					

TENSILE AS SHIPPED, KSI(MPA) 93.0(641)

MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A.
MATERIAL HAS BEEN MELTED IN USA OR QUALIFYING COUNTRY TO DEARS REQUIRE-
MENTS 252.225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1,
SUPERSEDED BY DEARS REQUIREMENTS DEARS 252.225-7008 AND 252.225-7009.
THIS ORDER WAS MANUFACTURED IN ACCORDANCE WITH CARPENTER SPECIALTY ALLOYS
OPERATIONS QUALITY PROGRAM MANUAL, REVISION 30 DATED 09/28/11.

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF NOVEMBER 24, 2010 TO
THE REQUIREMENTS OF ISO 9001:2008 APPROVAL CERTIFICATE 10-1385R BY PERFORMANCE
REVIEW INSTITUTE. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH
3.1 OF EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE
IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS.

DEANA KISSLING
ADMINISTRATOR - QUALITY
CARPENTER TECHNOLOGY CORPORATION

Deana M. Kissling

This certification is made to the customer printed on this form. Carpenter neither makes, nor assumes responsibility for, any representation or certification to other parties.
Die vorliegende Zertifizierung ist nur für den in diesem Formular genannten Kunden gültig. Carpenter übernimmt gegenüber Dritten keinerlei Haftung für die angegebenen Daten oder Zertifizierungen.
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B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23645

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
1	50	EA	AN3C16A		70867	MAC FASTENERS	ORFT4		


Jason Lewis
Vice President of Quality

04/07/14

MACFASTENERS, INC.

1110 Enterprise Street

Ottawa, KS 66067

Phone: 785-242-8812

Fax: 785-242-4616

Packing List**Bill** B/E AEROSPACE CONSUMABLES MGMT**To:** 10000 NW 15TH TERRACE

MIAMI, FL 33172

Ship B/E AEROSPACE CONSUMABLES MGMT**To:** 9835 NW 14th Street

Miami, FL 33172

United States

Shipment No: 62795**Shipment Date:** 03/13/14**Ship Via:** United Parcel Service**Order Number:** 49775**Order Date:** 12/06/13**Customer Code:** BE AEROSPACE**Phone:** (305) 925-2600**PO Number:** 0TLR82**Terms:** Net 30 Days

<u>Item</u>	<u>Quantity</u>				<u>Unit</u>	<u>Description</u>	<u>Job Number</u>
	<u>Open</u>	<u>Shipped</u>	<u>Back Ord</u>	<u>Canceled</u>			
1	10,000	10,000	0		M	AN3C16A Bolt, machine-- Aircraft	70867

MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067

**CERTIFICATE OF CONFORMANCE
AND
MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0TLR82

PART NUMBER: AN3C16A

REV: 2

LOT NUMBER: 70867

MANUFACTURED QUANTITY: 10,000

MILL HEAT NUMBER: 568597

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

MERCURY FREE CERTIFICATION

MacFasteners certifies that the parts referenced in the above lot number
do not contain Mercury or Mercury compounds, and were
manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC
FASTENERS within the United States, and were processed in accordance with all applicable drawings and
specifications. Objective evidence of compliance is on file, subject to examination upon request.

Mac Fasteners is an AS9100C Registered Company- SAI GLOBAL - 0058029

Mac Fasteners is a DISC QSLM approved Manufacturer - CAGE Code 0RFT4

Mac Fasteners is an Airbus approved Supplier - 203399

DATE: 03/13/14


QUALITY ASSURANCE REPRESENTATIVE

MAC FASTENERS, INC.
1110 EAST ENTERPRISE
OTTAWA, KS 66067

CHEMICAL & PHYSICAL TEST REPORT

CUSTOMER B/E AEROSPACE	PO NUMBER 0TLR82	MFG QUANTITY 10,000	DATE 03/13/14
PART NUMBER AN3C16A	REV 2	LOT NO 70867	PROCUREMENT SPEC NASM6812

MATERIAL TYPE 431				MATERIAL SPECIFICATION ASTM A493				MILL HEAT NUMBER 568597			SUPPLIER CARPENTER		
C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	B	Fe	Al	Ti
.17	.48	.65	.019	.001		1.58	15.9						
	Co	N	Bi	Pb	Mg	Zn		Nb	Sn			Other	

MECHANICAL TEST RESULTS - TESTING PER NASM1312

ULTIMATE TENSILE STRENGTH POUNDS
3,510
3,480
3,510
3,500
3,490
MIN. REQ. 2,210

DOUBLE SHEAR STRENGTH POUNDS / PSI
4,800
4,790
4,800
4,800
4,780
MIN. REQ. 4,250

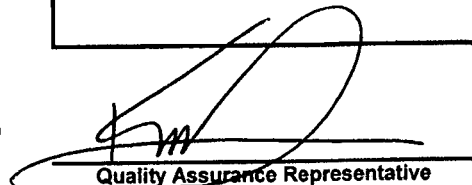
HARDNESS	
ROCKWELL "C" SCALE	
REQ.	26 - 32 HRC
SAMPLE SIZE	5
ACTUAL RESULTS 26 - 28 HRC	

METALLURGICAL EXAMINATION			
Discontinuities	<input checked="" type="checkbox"/>	Carb/Decarb	<input checked="" type="checkbox"/>
Grain Flow	<input checked="" type="checkbox"/>	Microstructure	<input checked="" type="checkbox"/>
Grain Size	<input checked="" type="checkbox"/>	Appearance	<input checked="" type="checkbox"/>
Thread Inspection FED-STD-H28/20 - ASME B1.3		System <input type="checkbox"/> 21	System <input checked="" type="checkbox"/> 22
			System <input type="checkbox"/> 23

NDT/ ADDITIONAL TESTS	
Magnetic Particle Inspection per ASTM E1444	<input type="checkbox"/>
Liquid Penetrant Inspection per ASTM E1417	<input type="checkbox"/>
Recess Torque Test	<input type="checkbox"/>
Head Marking	<input checked="" type="checkbox"/>
Magnetic Permeability ASTM A342 less than 2.0	<input type="checkbox"/>

TEST CERTIFICATION

WE CERTIFY THAT THE PART NUMBER, LOT NUMBER, AND SAMPLES REFERENCED ABOVE HAVE BEEN TESTED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATION FOR THE TESTS REPORTED HEREIN. THIS CERTIFICATION SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF MAC FASTENERS, INC.


 Quality Assurance Representative

AS9100C REGISTERED
SAI GLOBAL - 0058029

MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067

HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 03/13/14

PO NUMBER: 0TLR82

MANUFACTURED QUANTITY: 10,000

PROCESSOR:

PAULO PRODUCTS KCMO - NADCAP ID 4679

LOT NUMBER: 70867

MATERIAL: TYPE 431

PART NUMBER: AN3C16A

REVISION: 2

REQUIRED HARDNESS: 26 - 32 HRC

SAMPLE SIZE: 5

HARDNESS: 26 - 28 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

Notes:

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing, by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.



QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company - SAI GLOBAL - 0058029

DE TRAY Plating Works

Specialized Electro-Plating and Polishing
Nickel
Copper
Decorative Chrome
Satin Chrome
Zinc
Cadmium
Passivate
Bright Dip
Strip Copper
Descale

10405 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052
Phone (816) 252-8411 Fax (816) 252-8527 • E-mail : DeTrayPlating@Aol.com

Passivate Treatment per QQ-P-35C/SAE AMS QQ-P-35/ASTM-A380

CUSTOMER: Mac Fasteners Lot#: 70867
PART NUMBER: AN3C16A
PROCUREMENT SPECIFICATION: n/a
OTHER CONTRACTURAL REQUIREMENTS:
MATERIAL: 431
QUANTITY: 175 lbs
INVOICE NUMBER: 177613

Certification Statement:

We certify that the above referenced lot was processed, tested, and inspected in accordance with QQ-P-35C/SAE AMS-QQ-P-35, AMS2700 and part standard.

DE TRAY PLATING WORKS

NAME: 

JOB TITLE: VICE-PRESIDENT

DATE: 3/11/2014

CERTIFICATE OF TESTS
ABNAHMEPRUEFZEUGNIS
CERTIFICAT DE CONTROLE

CERT SERIAL# 000879077


CARPENTER

 Carpenter Technology Corporation
 101 West Bern Street, Reading, Pa. 19601
 Tel: (610) 208-2000 (800) 338-4592

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

06/10/13

CUSTOMER/BESTELLER/CLIENT

MAC FASTENERS INC

 1110 E. ENTERPRISE
 OTTAWA KS 66067

SELLER/VERKÄUFER/VENDEUR PAGE 1 OF 1

BOL

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
81050	W72447	06/10/13	2395.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 568597

 PRODUCT DESCRIPTION: TYPE 431 COLD FINISH SEAM FREE ANNEALED C HDG CL K1 HVY
 ----- CU TENSILE MAX 100.0 KSI

SPECIFICATION: ASTM-A493-09

SIZE 0.187500 IN. (4.76 MM) RD WIRE

PRIMARY HEAT CHEMISTRY(WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN (XRF)	SI (XRF)	P (XRF)	S (COM)	CR (XRF)
0.17	0.65	0.48	0.019	0.001	15.9
NI (XRF)					
1.58					

TENSILE AS SHIPPED, KSI (MPA) 94.5 (652)

MATERIAL HAS BEEN MELTED AND MANUFACTURED IN THE USA WHICH IS A QUALIFYING COUNTRY TO DFARS REQUIREMENTS 252.225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1, SUPERSEDED BY DFARS REQUIREMENTS DFARS 252.225-7008 AND 252.225-7009.

THIS ORDER WAS MANUFACTURED IN ACCORDANCE WITH CARPENTER SPECIALTY ALLOYS OPERATIONS QUALITY PROGRAM MANUAL, REVISION 30 DATED 09/28/11.

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF NOVEMBER 24, 2010 TO THE REQUIREMENTS OF ISO 9001:2008 APPROVAL CERTIFICATE 10-1385R BY PERFORMANCE REVIEW INSTITUTE. THIS CERTIFICATE OF TEST IS TYPE 3.1 PREPARED IN ACCORDANCE WITH EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS, AS DOCUMENTED IN THIS CERTIFICATE OF TESTS.

TEST METHODS ARE PER THE ASTM STANDARDS ON FILE AND IN EFFECT AT TIME OF ORDER ACCEPTANCE, STANDARD PRACTICES, OR AS AGREED UPON BETWEEN CARPENTER & CUSTOMER.

 GARY BROWN
 MANAGER - SPECIFICATIONS/CERTIFICATIONS
 CARPENTER TECHNOLOGY CORPORATION

This certification is made to the customer printed on this form. Carpenter neither makes, nor assumes responsibility for, any representation or certification to other parties.
 Die vorliegende Zertifizierung ist nur für den in diesem Formular genannten Kunden gültig. Carpenter übernimmt gegenüber Dritten keinerlei Haftung für die ausgetragenen Daten oder Zertifizierungen.
 Ce certificat est uniquement valable pour le client dont le nom est imprimé sur ce formulaire. Carpenter n'assume pas de responsabilité pour une certification vis-à-vis d'une tierce personne.



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source, and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23645

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
7	125	EA	AN6C12A		46409	3V FASTENERS	1ER65		

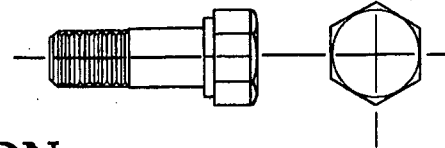

Jason Lewis
Vice President of Quality

04/07/14

Inv # 04/07/14



320 REED CIRCLE • CORONA, CA 92879
PHONE 951/734-4391 FAX 951/734-0127



TEST CERTIFICATION

Cert # : 43956 Cert Date : 06/02/09 LOT # : 46409 Page: 1 of 1
Cust # : 3360 P.O. # : 0902504
Customer : HONEYWELL CONSUMABLES P.O. Qty : 2500
Ship To : ROANOKE, TX. Ship # : S-00033689
Part # : AN6C12A MFG. Part # : NASM6C12A REV.1
Material Spec : MIL-S-18732D Heat # : 419432
Type : 431 Mill, Vendor : VALBRUNA/CENTRAL WIRE
Code : 11472 Procure Spec : NASM6812 REV.2

Hardness per NASM1312-6, ASTM E 18 or E 384
Minimum Requirement: 26-32 HRC
26.0 26.0 26.0 26.0 27.0
Metallurgical Tests
Hardness: N/A Grain Size: N/A Decarb: NONE

Metallurgical, Special Process and Subcontracted Test Information
THREADS INSPECTED PER MIL-S-8879C N.3, AS8879D OR MIL-S-7742D A.1
MACRO AND MICROSTRUCTURE SATISFACTORY 5 PCS
HEAT TREAT PER AMS2759/5D BY CONTINENTAL #89170
PASSIVATE PER AMS2700C MET.1 TY2 BY ACTIVE #86912
SAMPLE FPI PER ASTM E 1417 05 BY ACTIVE #89734
DFARS 252.225-7014 ALT.1 ONLY AS IT APPLIES PER P.O.


Tensile per NASM1312-8
Minimum Requirement: 10100 LBS
Load : 13200 13500 13400 13260 13400
Failure: THD THD THD THD THD

THIS TEST CERTIFICATION SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF 3-V FASTENERS CO., INC. TESTING LABORATORY.
THIS CERTIFICATION SHALL NOT BE USED BY THE CUSTOMER TO CLAIM PRODUCT ENDORSEMENT BY ANY AGENCY OF THE U.S. GOVERNMENT.
3-V FASTENERS CERTIFIES THAT THE PRODUCT SHIPPED ON ABOVE PURCHASE ORDER WERE MANUFACTURED, INSPECTED AND TESTED IN COMPLIANCE WITH ALL APPLICABLE PRINTS AND SPECIFICATIONS. ALL SUPPORTING DOCUMENTATION IS ON FILE AT 3-V.
REGISTERED ISO 9001:2000 PJR C01-1020, AND AS9100 / CAGE CODE 1ER65 / BAE APPROVAL BAE/AG/30148/CAL / AIRBUS APPROVAL 30085.

QUALITY ASSURANCE LAB SUPERVISOR 6-3-09
DANIEL E. HENSON

3V FASTENERS CO., INC.		FINAL INSPECTION REPORT		PG 1 OF 2	
PART NUMBER	REV.	LOT #	LOT SIZE	SAMPLE SIZE	
AN6C12A	1	46409	2364	125/13	
DESC: HEX HD EXT.		PRINT NUMBER		SAMPLING PLAN	
3/8-24 X 1.328		NASM3 THRU NASM20		ANSI Z1.4 GLII, S-3	

PRINT CHARACTERISTIC	PRINT REQ.	ACTUAL	ACC.	REJ.	GAGE EQUIPMENT
HEAD MARKING	— L290	— L060	✓		VISUAL/10X
GRIP LENGTH $\frac{+}{-}$.015	.703 — .673	.690 — .686	✓		CALIPER/OPT.COMP.
LENGTH $\frac{+}{-}$.031 — .016	1.350 — 1.312	1.331 — 1.322	✓		CALIPER
THREAD PITCH DIA.	.3479—.3450	.3465—.3461	✓		TRI-ROLL
THREAD FUN. DIA.	.3479—.3450	.3474—.3463	✓		TRI-ROLL/RING GAGE
THREAD MAJOR DIA.	.3750—.3678	.3737—.3725	✓		MICROMETER
THREAD ROOT RADIUS	N/A	N/A	—		OPTICAL COMPARATOR
THREAD MINOR DIA.	N/A	N/A	—		TRI-ROLL/OPT.COMP.
GRIP DIAMETER	.374—.371	.374—.373	✓		MICROMETER/OPT COMP
WRENCH FLATS	.565—.553	.558—.555	✓		CALIPER
BEARING SURFACE DIA	.553—.523	.542—.541	✓		OPTICAL COMPARATOR
BEARING SURF. HGT.	.026—.006	.013—.009	✓		OPTICAL COMPARATOR
RADIUS UNDER HEAD	.015—.005	.014—.012	✓		OPTICAL COMPARATOR
HEAD HEIGHT	.235—.203	.223—.216	✓		CALIPER/MICROMETER
DIMPLE/RECESS DEPTH	N/A	N/A	—		HEIGHT STAND
DIMPLE/RECESS WIDTH	N/A	N/A	—		CALIPER/PIN GAGE
WRENCH POINT DIA.	N/A	N/A	—		CALIPER
FIN THD, B/S, RAD, GRIP	32/RA MAX.	< 32/RA	✓		COMPARATOR GAGE/10X
FIN. ALL OTHERS	125/RA MAX.	< 125/RA	✓		COMPARATOR GAGE/10X
BURRS/SHARP EDGES	NONE ALLOWED	NONE	✓		VISUAL/10X
BEARING SURF. SQ.	2 DEG. MAX.	< 2°	✓		OPTICAL COMPARATOR
SHANK STRAIGHTNESS *	.0025	< .0025	✓		CONCE. GAGE/SUR. PLT

INSP. PERFORMED & ACCEPTED BY: <i>cm. [Signature]</i> <div style="text-align: center; margin-top: 10px;">  </div>	DATE: 5-26-09 NEW DATE: December 8, 2004 38754
REPORT PREPARED BY: DAN HENSON	

FORM 11-1, REV 5 03/17/98

NOTES:

1. * PER INCH OF LENGTH



MTR

PERTH, ON
ERIN, ON
DUMAS, AR
LANCASTER, SC

613-267-3752 FAX 613-267-5817
619-833-8632 FAX 619-833-2213
870-382-2980 FAX 870-382-8988
803-283-3353 FAX 803-283-6303



CENTRAL WIRE

UNION, IL
HOUSTON, TX
PERRIS, CA

615-923-2131 FAX 615-923-2128
713-466-1000 FAX 713-466-7425
861-657-2105 FAX 861-643-8081

THE LEADING MANUFACTURER OF STAINLESS STEEL, NICKEL AND COPPER ALLOY WIRE PRODUCTS
EXECUTIVE OFFICES: PERTH, ON CANADA - EMAIL sales@centralwire.com

PERRIS SERVICE CENTER
2500 "A" STREET
TEL: 909-957-2106

PERRIS, CA 92570-9381
FAX: 909-943-8061

3V
LAB
06

CERTIFICATE OF CONFORMANCE

SOLD
TO

3V FASTENERS
320 REED CIRCLE
CORONA,
USA

CA 92879-1349

SHIP
TO

3V FASTENERS
320 REED CIRCLE
CORONA,
USA

CA 92879-1349

CUSTOMER'S PO NO.	TYPE OF CERT	CUSTOMER	ORDER NO.	WORK ORDER	DATE SHIPPED
14687	Customer	129433	1096466 4	4064672	6/25/07

SPECIFICATIONS:

AMS 5628F, AMS-S-18732, MIL-S-18732
* DPAR 252.225.7014 ALT I COMPLIANT *

ITEM DESCRIPTION		
DESCRIPTION	SPEC. CLASS	HEAT
Cold Heading 431 SKIN PASSED Seam Free .3715 Coils Std. Copper/Techcoat	Melt mill VALBRUNA Country of origin ITALY	419432
	QTY SHIP 408	055

CHEMICAL ANALYSIS						
C	MN	SI	P	S	CR	NI
.14	.56	.36	.024	.001	15.58	1.58
MO	CU	N				
.07	.12	.025				

MECHANICAL PROPERTIES							
AS SHIPPED PROPERTIES:							
TENSILE 95.000 KSI							
AFTER HEAT TREAT PROPERTIES: * SEE BELOW							
TENSILE 213.000 KSI	YIELD 176.000 KSI	ELONGATION 14.000 % (4D)	R/A 50.000 %				

MICROSTRUCTURE: BANDED & BLOCKY FERRITE, BANDED & BLOCKY AUSTENITE-ACCEPTABLE
* 1875 F +/-25 F 30 MN, QUENCHED IN OIL AT 125 F +/-25 F, COOLED TO ROOM
TEMPERATURE IN WATER, SOAKED IN LIQUID AT -100 F +/-20 F NOT LESS THAN 2
HOURS, TEMPERED IN AIR AT 550 F +/-25 F FOR 2 HRS, AND RETEMPERED IN AIR
AT 550 F +/-25 F FOR 2 HOURS. RON MATUEWEZSKI, QUALITY CONTROL SUPERVISOR

The material as shipped is free from mercury contamination. I certify the
chemical analysis and physical and mechanical test results reported above are
correct as contained in the records of the company.

Very truly yours,

AUTHORIZED SIGNATURE

Acciaierie Valbruna S.p.A.



CERTIFICATO DI COLLAUDO
ABNAHMEPRUEFZEIGNIS
INSPECTION CERTIFICATE
CERTIFICAT DE RECEPTION
EN 10204 , 3.1

13472

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Cliente / Bestell/Purchaser/Cliant
VALBRUNA STAINLESS INC.
2400 TAYLOR STREET WEST
USA-FORT WAYNE, IN 46801-USA

Avviso di Spedizione: D-BZ07002178
Lieferanzge/Packing #d/B.L.

Certificato nr: MEST470215/2007/
Prüfung/Test/Essai

Conferma ordine nr: EV06000456
Werk/Our Order/Nr.

Produttore: STABILIMENTO DI BOLZANO
Hersteller/Werk/Usine productrice

Ordine nr: 19623 CENTRALTECH.PO
Bestell/Your order/Commande

Marchio di Fabbrica:
Zeichen des Lieferwerkes
Trade mark
Style de Usine productrice



Oggetto Prova: Descaled Annealed Hotrolled
Prüfungsergebnis/Inspected/Prüfung

Tipo di Elaborazione: E+AOD
Erstellungsbearbeitung/Manufacture/Elaboration

Funzione del Collaudatore:
Sonderpost des Werkssachverständigen
Inspector's stamp/Prüfung des Assesseur

Specifiche:
Anforderungen / Requirements / Exigences
D.3.PRS.079.S 2005 431 A

ASTM A370 2005.

Qualità: 431
Werkstoff/Grade/Qualité

Marca: VAL4R
Markenbezeichnung/Brand/Qualité

Punzonatura: 431
Kennzeichnung/Marking/Marquage

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Produit description Description du produit	Dimensioni - in Abmessungen Dimension Dimension	Tolleranza Toleranz Allowance Tolérance	Lunghezza - in Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
0010	Round	0,4724	484-05A	/	419432		6.792	634601750

Sono state soddisfatte tutte le condizioni richieste
Die gestellten Anforderungen sind k. Anlage erfüllt
The material has been furnished in accordance with the requirements
Le matériel a été livré conforme aux exigences

Controllo antimescolanza: OK
Vermischungsprüfung: spektralanalytisch durchgeführt
Antimixing testing performed: OK
Contrôle antimesclage fait: r.a.s.

Controllo visivo e dimensionale: soddisfa le esigenze:
Besichtigung und Ausmessung: ohne Beanstandung
Visual inspection and dimensional checks: satisfactory
Contrôle visuel et dimensionnel: satisfaisant

TEST	Prove/Tests Spezimen/Eprouvette Longitudinal Brinell Hard. Data Width from Thickness Long. diam. split mm	°F	Post. Saggle Recess Recess Recess	Snervamento Seizgrenze Yield Stress Limits elastic Rp 0,2% k.s.i.	Snervamento Seizgrenze Yield Stress Limits elastic Rp 0,2% k.s.i.	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.i.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Bruchdehnung Reduction of area Striction RA %	Resilienza Hochschlagwert Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti 1 Anforderungen/Requisit values Valeurs demandées		min max				123				
A	8.75	68	L	94		121	24	58		262

Sample hardened and double tempered

Sample hardened and double tempered											
Tipo Trattamento Wärmebehandlung Heat Treatment Treatement	Temperatura Temperatur Temperature	Raffreddamento Abkühlung Cooling Refroidissement	Permanenza Haltezeit Permanence Mantien	Tipo Trattamento Wärmebehandlung Heat Treatment Treatement	Temperatura Temperatur Temperature	Raffreddamento Abkühlung Cooling Refroidissement	Permanenza Haltezeit Permanence Mantien	Tipo Trattamento Wärmebehandlung Heat Treatment Treatement	Temperatura Temperatur Temperature	Raffreddamento Abkühlung Cooling Refroidissement	Permanenza Haltezeit Permanence Mantien
Hardening	1875 °F	OIL		First tempering	550 °F	AIR		Second tempering	550 °F	AIR	
TEST	Prova/Tests Spezimen/Eprouvette Longitudinal Brinell Hard. Data Width from Thickness Long. diam. split mm	° F	Post. Saggle Recess Recess Recess	Snervamento Seizgrenze Yield Stress Limits elastic Rp 0,2% k.s.i.	Snervamento Seizgrenze Yield Stress Limits elastic Rp 0,2% k.s.i.	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm k.s.i.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Bruchdehnung Reduction of area Striction RA %	Resilienza Hochschlagwert Impact Value Resilience	Durezza Härte Hardness Dureté	
	Valori richiesti 1 Anforderungen/Requisit values Valeurs demandées			150	-	200	10	40	-	-	
	B	8,75	68	L	176		213	14	50		

l) = longitudinal, O = Öl, T = Temperen, A = Luft

TEST C: hardened from 1024C/oil and tempered from 635/air,
according to AMS 5628F.
Grain size for ASTM E112 : 4
FERRITE DELTA % : 0



Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata / Heat Schmelze/Coulée	min 0,12 max 0,17	0,20 0,50	0,30 0,80	15,50 16,50	0,25	0,50	1,50 1,75	0,040	0,030	0,100					
C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	P %	S %	N %						
419432	0,14	0,36	0,58	15,58	0,07	0,12	1,58	0,024	0,001	0,025					

Banded Ferrite and Austenite conform to the AMS 5628F.
Material is DFARS Compliant

Bolzano, 20/03/07 BBLO08 (Mod. MCER)	Il collaudatore di stabilimento / der Werkssachverständige / Works Inspector / L'agent d'usine M. Lestani	Pagina - 1 di 2
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11/03/07 3 PRS. 079. 5
4 17-07

Acciaierie Valbruna S.p.A.



11472
CERTIFICATO DI COLLAUDO
ABNAHMEPRUEFZEUGNIS
INSPECTION CERTIFICATE
CERTIFICAT DE RECEPTION
EN 10204, 3.1

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Clienti / Destinatari/Purchaser/Client
VALBRUNA STAINLESS INC.
2400 TAYLOR STREET WEST
USA-FORT WAYNE, IN 46801-USA

Produttore: STABILIMENTO DI BOLZANO
Hersteller/Item/Usine productrice

Oggetto Prove: Descaled Annealed Hotrolled
Prüfgegenstand/Item inspected/Finissage

Avviso di Spedizione: D-BZ07002178
L'etiquette/Packing No./D.L.

Ordine nr: 19623 CENTRALTECH.PO
Bestell/Vorder order/Commande

Tipo di Elaborazione: E+AOD
Erzeugnisart/Welding process/Made of elaboration

Certificato nr: MEST470215/2007/
Prüfung/Test/Essai

Conferma ordine nr: EV06000456
Werk/Our Order/Ref. nr.

Marchio di Fabbrica:
Zeichen des Lieferanten
Trade mark
Style de l'usine productrice



Pinzone del Collaudatore:
Stempel des Werkssachverständigen
Inspector's stamp/Pinçon de l'inspecteur

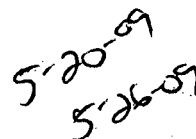


Melted and manufactured in Italy No welding or weld repair Material free from Mercury or radio-activity contamination
The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, s. 4.3 by TÜV and LLOYD'S



PHC

<p>Bolzano, 20/03/07 BDL006 (Mod. MCER)</p>	<p>Il collaudatore di stabilimento / der Werkssachverständige / Works Inspector / L' agent d' usine M. Lestari <i>[Signature]</i></p>	<p>Pagina - 2 di 2</p>
---	---	------------------------



3V
INSP
03

RECEIVED
MAY 27 2009
BY

ORIGINAL CERTIFICATION/TEST REPORT

89612

**MAGNETIC
INSPECTION, INC.**

5-13-08

9356½ San Fernando Road, Unit B • Sun Valley, CA 91352
(818) 504-0677 • FAX (818) 504-1559

SOLD TO: 3V FASTENERS
320 REED CIRCLE
CORONA, CA 92879
(951) 734-4391

3V
INSP
03

TERMS: net 30

DATE CERTIFIED	DATE RECEIVED:	DATE TESTED:	CUSTOMER P.O.	PACKAGING METHOD
05-11-2009	05-08-09	05-11-2009	69612	3 Pan
QUANTITY	PART NO.	DESCRIPTION	UNIT	AMOUNT
2343 126#	AN6C12A R/N# 46409	PENE PASS		
	SALT SPRAY			
	Salt Spray 13 pcs Acc: 13 Ret: 0			
	4 HOURS SALT SPRAY TEST			
RECEIVED MAY 12 2009				
MATERIAL / HEAT TREAT / STATUS OF PARTS	431/FINAL		TOTAL	

PASSIVATÉ 104 ASTM-B117-REV 07/AMS2700C METHOD 1 TYPE 2

Other

MAGNETIC SPECIFICATIONS

Acceptance Criteria

[illegible]

Reason Rejected

FLOURESCENT PENETRANT SPECIFICATIONS.

Acceptance Criteria /ASTM-E-1417-05 NASH6812

Acceptance Criteria

[illegible]

Reason Rejected

RG NDT Level 2: REYES HERNANDEZ

*This test certification shall not be reproduced except in full. This certification shall not be used by the customer to claim product endorsement by any agency of the U.S. government. Active Magnetic Inspection certifies that the product shipped on the above certification were processed, inspected & tested in compliance with all applicable prints & specifications. All supporting documentation is on file at Active Magnetic Inspection.

ORIGINAL CERTIFICATION/TEST REPORT



10643 S. NORWALK BL.
SANTA FE SPRINGS
CALIFORNIA 90670
562-944-8808
800-622-6624
FAX 562-944-1499

CERTIFICATION

4-30-01

89170

CERTIFICATION NUMBER
531333

SOLD TO
3 V FASTENERS
320 REED CIRCLE
CORONA, CA 92879-1349



SHIP TO
3 V FASTENERS
320 REED CIRCLE
CORONA, CA 92879-1349

CUSTOMER NUMBER 0450045	DATE RECEIVED 04/08/09	CUSTOMER P.O. NUMBER 89170	CUSTOMER SHIPPER
----------------------------	---------------------------	-------------------------------	------------------

QUANTITY	WEIGHT	PART NUMBER / DESCRIPTION
2358	127	AN6C12A RTR# 46409 H/T, 125-145 KSI PER P.O.
		3 PANS

MATERIAL	HARDNESS	MAX-CROSS SECTION	CASE DEPTH	CORE HARDNESS
431 S/S SPECIFICATIONS	27-32 HRC AMS 2759/5 D	.375		

PROCESS	SPEC TEMP	SPEC TIME	EQUIP.	ACT TEMP	TIME IN	TIME AT-HEAT	TIME OUT	ATMOS DEWPT	Q-MED & TEMP	DATE
RACK			RACK		.08	Y				04/13
PRECLEAN	140	:05	WASH	140	10:00	10:00	10:05	AIR	A/C	04/13
LOADCOUPLE			WIRE		.08	Y				04/13
SET V P			ATMOS		.02	Y				04/13
PREHEAT	1400	:30	V5	1400	18:34	20:45	21:15	VAC	RAISE	04/13
AUSTENITIE	1875	2:00	V5	1875	21:15	22:10	00:10	VAC	OIL	04/13
SUBZERO	-100	2:00	CB1	-100	03:00	03:10	05:10	NIT	A/W	04/14
SNAPTEMPER	300	2:00	D18	300	07:30	07:40	09:40	AIR	A/C	04/14
LOADCOUPLE			WIRE		.08	Y				04/28
SET V P			ATMOS		.01	Y				04/28
TEMPER 15	1125	3:05	V8	1125	05:00	7:05	10:10	VAC	GFC	04/28
TEST RESULTS: 27-28 HRC LAB#:410/07911 TEST:1 ACCT:2358 REJT:0										
LOADCOUPLE			WIRE		.08	Y				04/28
SET V P			ATMOS		.08	Y				04/28
TEMPER 15	1125	3:00	V8	1125	10:55	13:25	16:25	VAC	GFC	04/28
GLASS BEAD			B1		2.00	Y				04/29



SPC

HARDNESS:27-28 HRC QTY TESTED:8 QTY ACCT:2358 QTY REJT:0

INSPECTOR RANDALL THOMAS	DATE 04/29/09	QUALITY MANAGER JIMMY MARTINEZ for DON LOWMAN
-----------------------------	------------------	--

This Process Certification covers thermal processing and/or hardness testing only. No particular mechanical properties of any material should be assumed, or are implied, as a result of the thermal processing and/or hardness testing of this Process Certification.
ALL FURNACES CERTIFIED TO MEET THE REQUIREMENTS OF AMS-H-6875, CURRENT REVISION. HARDNESS TESTING PERFORMED TO THE LATEST REVISION OF ASTM E 384, ASTM E 10, ASTM E 110, ASTM E 18, ASTM E 140 AND ASTM A 370.
E174 REV C 12/10/04 SUBJECT TO CONDITIONS ON REVERSE SIDE



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23645

LIN#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
5	500	EA	AN4-14A		68538	MAC FASTENERS	ORPT4		


Jason Lewis
Vice President of Quality

04/07/14

MACFASTENERS, INC.

1110 Enterprise Street
Ottawa, KS 66067
Phone: 785-242-8812
Fax: 785-242-4616

Packing List

Bill B/E AEROSPACE CONSUMABLES MGMT
To: 10000 NW 15TH TERRACE
MIAMI, FL 33172

Ship B/E AEROSPACE CONSUMABLES MGMT
To: 9835 NW 14th Street
Miami, FL 33172
United States

Shipment No: 62095
Shipment Date: 01/23/14
Ship Via: United Parcel Service
Order Number: 48480
Order Date: 07/22/13

Customer Code: BE AEROSPACE
Phone: (305) 925-2600
PO Number: 0PZH84
Terms: Net 30 Days

LOT #68538

<u>Item</u>	<u>Quantity</u>				<u>Unit</u>	<u>Description</u>	<u>Job Number</u>
	<u>Open</u>	<u>Shipped</u>	<u>Back Ord</u>	<u>Canceled</u>			
1	100,000	110,000	0		M	AN4-14A Bolt, machine-- Aircraft	68538

**MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067**

**CERTIFICATE OF CONFORMANCE
AND
MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0PZH84

PART NUMBER: AN4-14A

REV: 2

LOT NUMBER: 68538

MANUFACTURED QUANTITY: 110,000

MILL HEAT NUMBER: 8193290

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

MERCURY FREE CERTIFICATION

MacFasteners Inc. certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS, INC. within the United States, and were processed in accordance with all applicable drawings and specifications.

Objective evidence of compliance is on file, subject to examination upon request.

DATE: 01/22/14


QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company- SAI GLOBAL - 0058029

MAC FASTENERS, INC.
1110 EAST ENTERPRISE
OTTAWA, KS 66067

CHEMICAL & PHYSICAL TEST REPORT

CUSTOMER B/E AEROSPACE	PO NUMBER 0PZH84	MFG QUANTITY 110,000	DATE 01/22/14
PART NUMBER AN4-14A	REV 2	LOT NO 68538	PROCUREMENT SPEC NASM6812

MATERIAL TYPE 8740				MATERIAL SPECIFICATION MIL-S-6049/AMS6322				MILL HEAT NUMBER 8193290			SUPPLIER JOHNSTOWN		
C .40	Si .24	Mn .77	P .010	S .010	Cu .10	Ni .52	Cr .58	Mo .26	V .002	B	Fe	Al .023	Ti
	Co	N .0060	Bi	Pb	Mg	Zn		Nb	Sn .005			Other	

MECHANICAL TEST RESULTS - TESTING PER NASM1312

ULTIMATE TENSILE STRENGTH POUNDS	
5,770	
5,710	
5,720	
5,730	
5,750	
MIN. REQ.	4,080

DOUBLE SHEAR STRENGTH POUNDS / PSI	
8,180	
8,130	
8,140	
8,160	
8,190	
MIN. REQ.	7,360


HARDNESS	
ROCKWELL "C" SCALE	
REQ.	26 - 32 HRC
SAMPLE SIZE	5
ACTUAL RESULTS	
28 - 30 HRC	

METALLURGICAL EXAMINATION			
Discontinuities	<input checked="" type="checkbox"/>	Carb/Decarb	<input checked="" type="checkbox"/>
Grain Flow	<input checked="" type="checkbox"/>	Microstructure	<input checked="" type="checkbox"/>
Grain Size	<input checked="" type="checkbox"/>	Appearance	<input checked="" type="checkbox"/>
Thread Inspection FED-STD-H28/20 - ASME B1.3			
System 21	<input type="checkbox"/>	System 22	<input checked="" type="checkbox"/>
System 23	<input type="checkbox"/>		

NDT/ ADDITIONAL TESTS	
Magnetic Particle Inspection per ASTM E1444	<input checked="" type="checkbox"/>
Liquid Penetrant Inspection per ASTM E1417	<input type="checkbox"/>
Recess Torque Test	<input type="checkbox"/>
Head Marking	<input checked="" type="checkbox"/>
Magnetic Permeability ASTM A342 less than 2.0	<input type="checkbox"/>

TEST CERTIFICATION

WE CERTIFY THAT THE PART NUMBER, LOT NUMBER, AND SAMPLES REFERENCED ABOVE HAVE BEEN TESTED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATION FOR THE TESTS REPORTED HEREIN. THIS CERTIFICATION SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF MAC FASTENERS, INC.


Quality Assurance Representative

AS9100C REGISTERED
SAI GLOBAL - 0058029

MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067

HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 01/22/14

PO NUMBER: 0PZH84

MANUFACTURED QUANTITY: 110,000

PROCESSOR:

PAULO PRODUCTS KCMO - NADCAP ID 4679

LOT NUMBER: 68538

MATERIAL: TYPE 8740

PART NUMBER: AN4-14A

REVISION: 2

REQUIRED HARDNESS: 26 - 32 HRC

SAMPLE SIZE: 5

HARDNESS: 28 - 30 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

Notes:

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.


QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company - SAI GLOBAL - 0058029